ABSTRACT OF THE DISCLOSURE

Surgical operation supporting apparatus and method is disclosed in which based on a plurality of high-definition tomographic images of an operation site produced before surgery, a three-dimensional model of the operation site is generated, and a surface of the operation site is optically measured during the surgical operation, and further, first position information that represents a three-dimensional position of each of points on the surface of the operation site is acquired. Further, an unexposed portion of the operation site is measured with ultrasonic waves during the surgical operation, and the second position information that represents a three-dimensional position of each of points in the unexposed portion of the operation site is acquired. Moreover, based on the first position information and the second position information, displacement and distortion occurring at each of the points in the operation site are estimated using the generated three-dimensional model. And then, in accordance with the estimated displacement and distortion occurring at each of the points in the operation site, the plurality of high-definition tomographic images of the operation site produced before the surgical operation are corrected and the corrected high-definition tomographic images are displayed.